

## **REMARKS**

### **I. INTRODUCTION**

Claims 12 - 19 remain pending in the present application. The Specification and the Drawings has been amended. Claims 12, 16, 17 and 19 have been amended. No new matter has been added. It is respectfully submitted that, based on the above amendments and the following remarks, all of the presently pending claims are in condition for allowance.

### **II. THE OBJECTION TO THE DRAWINGS SHOULD BE WITHDRAWN**

The Drawings have been objected to because Figs. 1 - 4 have not been designated with a legend such as Prior Art. *2/06/08 Office Action*, p. 2.

Figs. 1 - 4 have been amended to include a Prior Art label. Thus, it is respectfully submitted that objection to the Drawings should be withdrawn.

### **III. THE OBJECTION TO THE SPECIFICATION SHOULD BE WITHDRAWN**

The Specification is objected to because of an informality. Specifically, the Examiner states that to claim the benefit of a foreign application, applicant must include a reference to the application in the Specification. *2/6/08 Office Action*, p. 2. Additionally, the Specification was objected to because the reference to Fig. 5 in some areas of the specification should refer to Fig. 6. *Id.*

The Specification has been amended to include a reference to the foreign application to which the present application claims priority and to include references to Fig. 6 where appropriate. Specifically, priority reference paragraph has been added and paragraph [0069] has been amended to refer to Fig. 6. It should be noted, however, that the reference to Fig. 5 in paragraphs [0070] and [0081] are correct since they describe the arrangement of the fault current limiter device, including descriptions referring to a cryostat 52, which is only shown in Fig. 5. Thus, it is respectfully submitted that in the objection to the specification should be withdrawn.

### **IV. THE CLAIM OBJECTIONS SHOULD BE WITHDRAWN**

Claims 12 and 16 stand objected to because of informalities. Specifically, the Examiner states that the term "earthing" should be deleted from these claims. *2/6/08 Office Action*, p. 3.

Claims 12 and 16 have been amended according to the Examiner's instructions. Thus, it is respectfully submitted that the objection to these claims should be withdrawn.

**V. THE CLAIM REJECTIONS UNDER 35 U.S.C. §112 SHOULD BE WITHDRAWN**

Claims 12 and 19 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. *2/6/08 Office Action*, pp. 3-4.

In regard to claim 12, the Examiner contends that the limitations are not consistent with the drawing figures and the specification. It is respectfully submitted that Fig. 5 clearly shows a cryostat provided with a superconductor coil 52, with phase coils 53-58 arranged around the cryostat. *Specification*, p. 4, ¶ [0068]. A series of neutrals 65, 66 is also shown as formed around the cryostat. As each of the phase coils 53-58 and neutral coils 65, 66 are arranged around the cryostat, it is respectfully submitted that it would be understood by those of skill in the art that the series of coils are adjacent the superconductor coil 52. Thus, it is respectfully submitted that claim 12 is not indefinite.

In regard to claim 19, it is respectfully submitted that the phrase "share the same superconductive coil" was used to define only a single DC biasing coil (high temperature superconductor) required for the complete fault current limiter. The single DC coil biases all the permeable cores. Claim 19 has been amended to clarify the use of a single superconducting coil, the support for which can be found in paragraph [0073] of the published specification. Thus, it is respectfully submitted that claim 19 is not indefinite.

Accordingly, it is respectfully submitted that claims 12 and 19 are in condition for allowance and that the rejection of these claims should be withdrawn.

**VI. THE CLAIM REJECTIONS UNDER 35 U.S.C. § 102(b) SHOULD BE WITHDRAWN**

Claims 16, 17 and 19 stand rejected under 35 U.S.C. § 102(b) as anticipated by French Patent No. 2621749 to Laumond et al. ("Laumond"). 2/6/08 Office Action, p. 5.

Amended claim 16 recites a method of current limiting faults in an electrical network, comprising the steps of "utilizing a fault current limiter between the electrical network and ground *for simultaneous fault current limiting of phase line to phase line faults and neutral faults on a neutral line.*"

In contrast, Laumond discloses a method of fault current limiting which places a fault limiting coil between a neutral start point and ground. *See Laumond*, Abstract. It will be understood by those of skill in the art that the fault current limiter of Laumond can only protect the sub-station and equipment from line to earth faults and cannot protect the sub-station from the full range of faults such as bolted three phase faults or line to line faults. It should also be noted that Laumond explicitly states that it is not economical to have the fault limiter coils in line with the normal AC current carrying lines of the sub-station and therefore teaches away from the present invention. Thus, it is respectfully submitted that Laumond does not show or suggest a method "utilizing a fault current limiter between the electrical network and ground *for simultaneous fault current limiting of phase line to phase line faults and neutral faults on a neutral line,*" as recited in claim 16.

Accordingly, it is respectfully submitted that claim 16 is not anticipated by Laumond and that the rejection of this claim should be withdrawn.

Amended claim 17 recites a method of current limiting faults in a multi-phase electrical network, comprising the steps of "coupling a superconductive phase fault current limiter between each phase of the electrical network and a transformer *for fault current limiting of phase line to phase line faults*" and "coupling a superconductive neutral fault current limiter between the neutral of the transformer and the neutral of the network *for fault current limiting of neutral faults on a neutral line.*"

For at least the same reasons as discussed above in regard to the rejection of claim 16, it is respectfully submitted that claim 17 is not anticipated by Laumond and that the rejection of this claim should be withdrawn. Because claim 19 depends from and includes all of the limitations of claim 17, it is respectfully submitted that this claim is also allowable.

**VII. THE CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a) SHOULD BE WITHDRAWN**

Claim 12 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Laumond. The Examiner contends that even though Laumond does not explicitly disclose a series of neutral coils, it would have been obvious to one of ordinary skill in the art to place a series of neutral coils in the electrical network for added protection. 2/6/08 Office Action, p. 6.

Amended claim 12 recites a fault current limiter for limiting current faults in an electrical network, comprising “a series of phase coils located adjacent a superconductive coil for fault current limiting phase line to phase line faults within the network” and “a series of neutral coils located adjacent the superconductive coil for fault current limiting neutral faults in the electrical network.”

As discussed above in regard to the § 102(b) rejection of claim 16, it is respectfully submitted that Laumond does not show or suggest a fault current limiter that is arranged in such a manner that would allow “for fault current limiting phase line to phase line faults within the network,” as recited in claim 12. Thus, it is respectfully submitted that claim 12 is not rendered obvious by Laumond and that the rejection of this claim should be withdrawn.

Claims 13 - 15 stand rejected under 35 U.S.C. 103(a) as unpatentable over Laumond in view of U.S. Patent No. 5,930,095 to Joo et al. (“Joo”). The Examiner states that Laumond discloses the invention substantially as claimed except for neutral coils formed around a high permeability coil, a superconductive coil encompassing a central core formed from a high permeability material, as well as phase coils and neutral coils coupled to the central core. The Examiner cites Joo to cure these deficiencies. 2/6/08 Office Action, p. 7.

It is respectfully submitted that Joo does not cure the deficiency of Laumond as discussed above in regard to claim 12. Specifically, Joo describes different saturated limiters, which does not address fault current limiting, as recited in claim 12. Since claims 13 -15 depend from and include all of the limitations of claim 12, it is respectfully submitted that these claims are also allowable.

Claim 18 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Laumond in view of U.S. Patent No. 6,049,036 to Metra (“Metra”). The Examiner states that Laumond discloses

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the present invention substantially as claimed, but does not explicitly disclose that the superconductive coil phase and neutral fault current limiters share the same cryostat. The Examiner cites Metra to cure this deficiency. 2/6/08 *Office Action*, p. 8.

It is respectfully submitted that Metra does not cure the deficiency of Laumond as described above in regard to claim 12. Specifically, Metra describes a method for terminating a superconducting cable and does not teach toward fault current limiting as recited in claim 12. Since claim 18 depends from and includes all of the limitations of claim 12, it is respectfully submitted that this claim is also allowable and that the rejection of this claim should be withdrawn.

In light of the foregoing, Applicant respectfully submits that all of the pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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